Cycle 10 Proposal Submission Statistics

Joint ALMA Observatory
June 26, 2023
<table>
<thead>
<tr>
<th></th>
<th>Number of proposals</th>
<th>12-m</th>
<th>7-m</th>
<th>Total Power</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>All proposals</strong></td>
<td>1679</td>
<td>29,508</td>
<td>16,109</td>
<td>15,904</td>
</tr>
<tr>
<td><strong>ACA standalone</strong></td>
<td>91</td>
<td>-</td>
<td>3891</td>
<td>2653</td>
</tr>
<tr>
<td><strong>Large Programs</strong></td>
<td>44</td>
<td>4964</td>
<td>4148</td>
<td>4448</td>
</tr>
</tbody>
</table>
### Time requested by region

<table>
<thead>
<tr>
<th></th>
<th>All</th>
<th>Chile</th>
<th>East Asia</th>
<th>Europe</th>
<th>North America</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>12-m Array time (hours)</strong></td>
<td>29,508</td>
<td>1508</td>
<td>5940</td>
<td>12,177</td>
<td>9196</td>
<td>687</td>
</tr>
<tr>
<td><strong>Offered</strong></td>
<td>4300</td>
<td>430</td>
<td>968</td>
<td>1451</td>
<td>1451</td>
<td>see note</td>
</tr>
<tr>
<td><strong>Subscription</strong></td>
<td>6.9</td>
<td>3.5</td>
<td>6.2</td>
<td>8.4</td>
<td>6.4</td>
<td>N/A</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>All</th>
<th>Chile</th>
<th>East Asia</th>
<th>Europe</th>
<th>North America</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>7-m Array time (hours)</strong></td>
<td>16,108</td>
<td>1299</td>
<td>3263</td>
<td>6098</td>
<td>5256</td>
<td>193</td>
</tr>
<tr>
<td><strong>Total Power Array time (hours)</strong></td>
<td>15,904</td>
<td>792</td>
<td>4362</td>
<td>5733</td>
<td>4894</td>
<td>121</td>
</tr>
</tbody>
</table>

Note: All regions contribute observing time for proposals from PIs who are not affiliated with any of the ALMA regions.
Joint Proposals

<table>
<thead>
<tr>
<th>Partner Observatory</th>
<th>Number of proposals*</th>
<th>Time requested on Partner Observatory</th>
</tr>
</thead>
<tbody>
<tr>
<td>JWST</td>
<td>26</td>
<td>204 h</td>
</tr>
<tr>
<td>VLA</td>
<td>10</td>
<td>115 h</td>
</tr>
<tr>
<td>VLT</td>
<td>10</td>
<td>88 h</td>
</tr>
</tbody>
</table>

*42 Joint Proposals submitted in Cycle 10, as 3 proposals requested time on 2 or more partner observatories.
Requested 12-m Array Time per Proposal*

*Excluding Large Programs
Requested 12-m Array Time by Science Category*

*Excluding Large Programs
Percentage of proposals by region* and category: all arrays

* Percentages by region correspond to the regional affiliation of the Principal Investigator (PI) and co-PIs.

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**Region**

- Chile: 4.9%
- East Asia: 21.8%
- Europe: 40.0%
- North America: 30.0%
- Other: 3.3%

**Science category**

- Cosmology: 25.5%
- Galaxies & galactic nuclei: 22.9%
- Star formation & ISM: 27.0%
- Disks & solar system: 18.7%
- Stars: 5.9%
The image contains bar charts showing the distribution of proposals by region, science category, and band for the 12-m Array.

- **Region**: The bar chart indicates that Europe has the highest percentage (39.9%) of proposals, followed by North America (30.6%) and East Asia (21.6%). Chile has the lowest percentage (4.8%). Other regions account for 3.2%.

- **Science Category**: The science categories with the highest proposals are Cosmology (26.3%) and Disk (19.6%). Other categories such as Galaxies & Galactic Nuclei (22.4%), Star Formation (25.9%), and ISM (10.6%) also have significant proposals.

- **Band**: The receiver bands with the highest proposals are Band 7 (41.6%) and Band 8 (36.0%). Other bands such as Band 1 (7.1%), Band 3 (22.5%), and Band 10 (3.3%) also have proposals.

**Notes**:
- Results are for the 1589 proposals requesting the 12-m Array.
- Percentages by receiver band sum to greater than 100% since some proposals request more than one receiver band.
Requested time by region, category, and band: 12-m Array

**Region:**
- Chile: 5.1%
- East Asia: 20.1%
- Europe: 41.3%
- North America: 31.2%
- Other: 2.3%

**Science category:**
- Cosmology: 31.4%
- Galaxies: 24.4%
- Star formation: 22.3%
- Disks: 17.4%
- Stars: 4.5%

**Band:**
- Receiver band:
  - 1: 5.1%
  - 3: 17.4%
  - 4: 6.1%
  - 5: 4.3%
  - 6: 33.9%
  - 7: 24.2%
  - 8: 5.1%
  - 9: 2.6%
  - 10: 1.2%
Number of proposals by region, category, and band: 7-m Array

- Results are for the 350 proposals requesting the 7-m Array.
- Percentages by receiver band sum to greater than 100% since some proposals request more than one receiver band.
Requested time by region, category, and band: 7-m Array

**Region**
- Chile: 8.1%
- East Asia: 20.3%
- Europe: 37.9%
- North America: 32.6%
- Other: 1.2%

**Science category**
- Cosmology: 8.6%
- Galaxies: 37.3%
- Star formation: 50.0%
- Disk: 2.3%
- Stars: 1.8%

**Band**
- Band 3: 32.4%
- Band 4: 3.1%
- Band 5: 1.8%
- Band 6: 9.2%
- Band 7: 4.1%
- Band 8: 2.3%
- Band 9: 2.0%
Number of proposals by region, category, and band: Total Power Array

- Results are for the 103 proposals requesting the Total Power Array.
- Percentages by receiver band sum to greater than 100% since some proposals request more than one receiver band.
Requested time by region, category, and band: Total Power Array

**Region**

- Chile: 5.0%
- East Asia: 27.4%
- Europe: 36.1%
- North America: 30.8%
- Other: 0.8%

**Science category**

- Cosmology: 0.2%
- Galaxies: 32.8%
- Star formation: 65.9%
- Disks: 0.2%
- Stars: 0.9%

**Band**

- Receiver band:
  - Band 3: 46.2%
  - Band 4: 0.4%
  - Band 5: 0.3%
  - Band 6: 41.0%
  - Band 7: 10.0%
  - Band 8: 2.1%
Percentage of Large Programs by region* and category: all arrays

* Percentages by region correspond to the regional affiliation of the Principal Investigator (PI) and co-PIs.
Requested time for Large Programs: 12-m Array

**Region**
- Chile: 8.5%
- East Asia: 17.1%
- Europe: 43.1%
- North America: 30.9%
- Other: 0.4%

**Science category**
- Cosmology: 39.0%
- Galaxies: 27.0%
- Star formation: 19.3%
- Disks: 12.7%
- Stars: 2.1%

**Band**
- Receiver band: 19.5% (3), 8.0% (4), 3.7% (5), 45.4% (6), 18.6% (7), 4.2% (8), 0.5% (9), 0.1% (10)
Requested time for Large Programs: 7-m Array
### Requested time for Large Programs: Total Power Array

#### Region

<table>
<thead>
<tr>
<th>Region</th>
<th>Percentage of requested time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chile</td>
<td>14.4%</td>
</tr>
<tr>
<td>East Asia</td>
<td>18.3%</td>
</tr>
<tr>
<td>Europe</td>
<td>41.3%</td>
</tr>
<tr>
<td>North America</td>
<td>26.1%</td>
</tr>
<tr>
<td>Other</td>
<td>0%</td>
</tr>
</tbody>
</table>

#### Science category

- **Cosmology**
  - Percentage: 15.7%

- **Galaxies & galactic nuclei**
  - Percentage: 0%

- **Star formation & ISM**
  - Percentage: 84.3%

- **Disks & solar system**
  - Percentage: 0%

- **Stars**
  - Percentage: 0%

#### Band

<table>
<thead>
<tr>
<th>Receiver band</th>
<th>Percentage of requested time</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>58.7%</td>
</tr>
<tr>
<td>4</td>
<td>0%</td>
</tr>
<tr>
<td>5</td>
<td>0%</td>
</tr>
<tr>
<td>6</td>
<td>32.7%</td>
</tr>
<tr>
<td>7</td>
<td>8.6%</td>
</tr>
<tr>
<td>8</td>
<td>0%</td>
</tr>
</tbody>
</table>
Number of submitted proposals by Cycle

<table>
<thead>
<tr>
<th>Cycle</th>
<th>Number of Proposals</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>919</td>
</tr>
<tr>
<td>1</td>
<td>1131</td>
</tr>
<tr>
<td>2</td>
<td>1381</td>
</tr>
<tr>
<td>3</td>
<td>1578</td>
</tr>
<tr>
<td>4</td>
<td>1571</td>
</tr>
<tr>
<td>5</td>
<td>1661</td>
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<tr>
<td>6</td>
<td>1836</td>
</tr>
<tr>
<td>7</td>
<td>1773</td>
</tr>
<tr>
<td>8</td>
<td>1735</td>
</tr>
<tr>
<td>9</td>
<td>1769</td>
</tr>
<tr>
<td>10</td>
<td>1679</td>
</tr>
</tbody>
</table>
Number of submitted Large Programs by Cycle

- Cycle 4: 27
- Cycle 5: 22
- Cycle 6: 18
- Cycle 7: 14
- Cycle 8: 40
- Cycle 9: 40
- Cycle 10: 44
Distribution of time requests on 12-m Array by Cycle

- Each box plot shows:
  - median (horizontal line)
  - 25-75% distribution (box)
  - 5-95% distribution (whiskers)

- Large Programs and standalone ACA proposals are excluded.
Time requested by Cycle

- 12-m Array
- 7-m Array
- Total Power Array
Oversubscription rate on 12-m Array by Cycle

- Europe
- North America
- East Asia
- Chile